

**A NEW SPECIES OF *PLOCOPSYLLA* JORDAN, 1931  
(SIPHONAPTERA: STEPHANOCIRCIDAE) FROM ARGENTINA**

BETH A. SCHRAMM AND ROBERT E. LEWIS

Southern Seminary Junior College, Buena Vista, Virginia 24416, and  
Department of Entomology, Iowa State University, Ames, Iowa 50011-3222

*Abstract.*—A new species of *Plocopsylla* Jordan, 1931 (Siphonaptera: Stephanocircidae) from Argentina is described. The holotype female and two paratype females of this new taxon were assigned originally to *Plocopsylla chiris* Jordan, 1931b. Because of dimorphism between these females and the male lectotype of *P. chiris* and host specificity data involving the genus *Plocopsylla*, these three females are described as new. The identifications of two other females previously assigned to *P. chiris* are discussed.

---

The family Stephanocircidae includes the Australian subfamily Stephanocircinae and the Central and South American subfamily Craneopsyllinae. The former contains two genera that are characterized by having well-developed helmet sutures. The latter contains seven genera, *Plocopsylla* among them, that have helmet sutures that are either vestigial or that merge with the interantennal suture. *Plocopsylla* is most similar to *Craneopsylla* Rothschild, 1911, and *Sphinctopsylla* Jordan, 1931, but it differs in several characters, including the fact that both genal bristles arise anterior to the cibarial pump. Males of *Plocopsylla* can be readily identified by the contours of the ninth sternite, the movable process, and the clasper with its mesal process, all of which are species-specific. Females lack such definite characters, and there are several instances in which the females of one species strongly resemble those of another.

It is not too unexpected that, with one possible exception, all females identified as *P. chiris* are not that species. Sexual dimorphism is unknown in any of the 18 species of *Plocopsylla* in which both sexes are known. Yet, in revision of the genus (Schramm, 1987), it was noted that morphological differences existed between the lectotype male and paralectotype female of *P. chiris*. In the lectotype, the anterior-to-posterior prectenidial helmet width is noticeably less than the length of the longest helmet spine. This specimen also has helmet spines with prominent V-shaped basal notches, a genal spine that is separated from the adjacent spine in the genal comb by a gap roughly  $\frac{1}{2}$  the basal width of the genal spine, and a 3-2-2-3-3-3-4 bristle arrangement along the posterior margin of the hind tibia. In contrast, the female initially designated the paralectotype of *P. chiris* and the other members of the type material of our new species have an anterior to posterior prectenidial helmet width that is slightly longer than the length of the longest helmet spine, the helmet spines lack basal notches, the genal spine is separated from the adjacent spine in the genal comb by a gap roughly equal to the basal width of the genal spine, and there is a 3-2-3-4-4-4-4 bristle arrangement on the hind tibia.

Also, it cannot be assumed that the specimens originally designated as the lectotype and paralectotype of *P. chiris* are the same species merely because they were collected from the same host. Host data for *Plocopsylla* species are incomplete but indicate

that it is not unusual to collect two, or possibly three, species belonging to this genus from a given locality, or from even the same host.

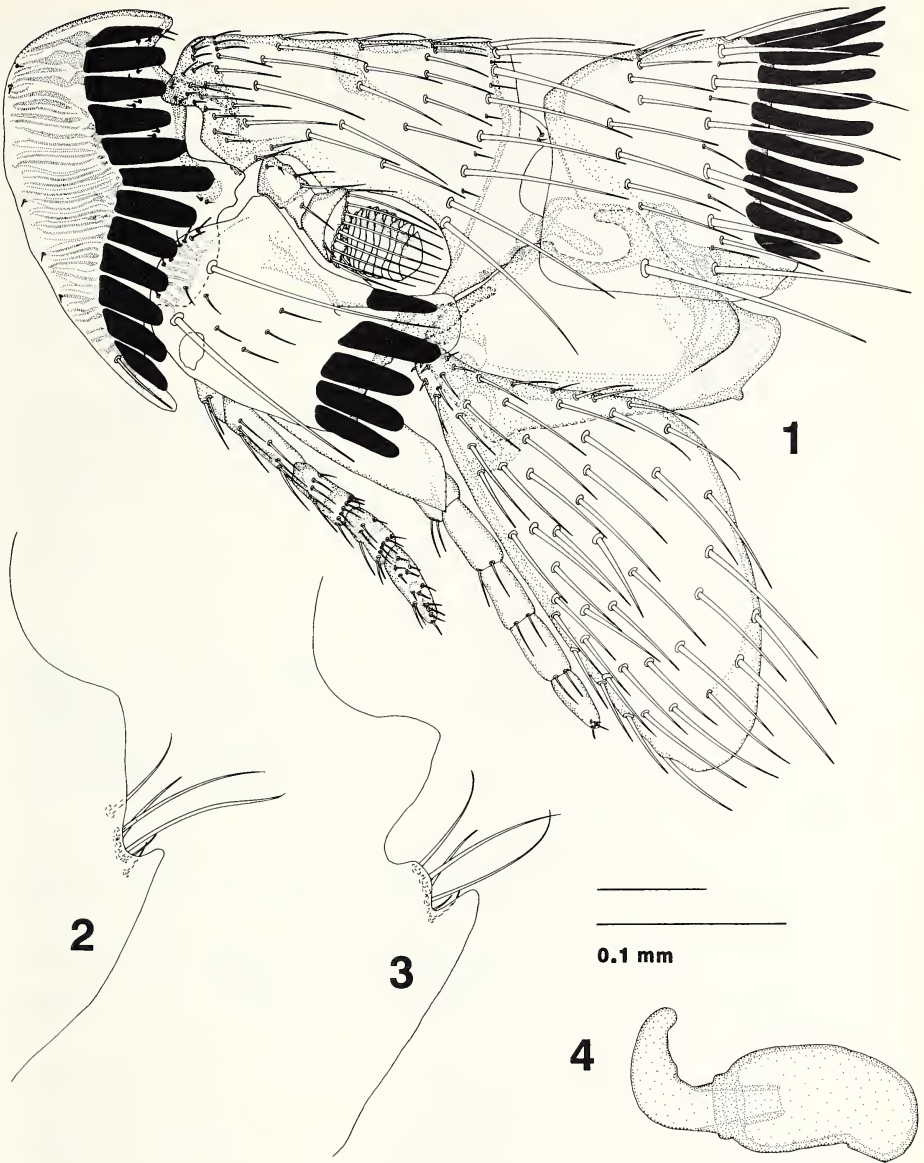
The females previously identified as *P. chiris* are assigned here to either *P. lewisi* Beaucournu and Gallardo, 1988, or to a new species. Females of these two species strongly resemble each other, but differ in the arrangement of bristles along the posterior margin of tergite VIII and in the shape of the anal stylet. The senior author examined the four females that were initially determined to be *P. chiris*. Three of these constitute the type material of the new species. Identification of the fourth, as well as of an additional female originally designated as *Craneopsylla wolffsohni* (Jordan and Rothschild, 1914), is discussed subsequently.

***Plocopsylla kasogonaga*, new species**

Figs. 1–2, 4

*Diagnosis.* Females of this species strongly resemble those of *P. lewisi*. Males are unknown. Females of both species share the following characters: a) helmet spines not basally notched; b) five spines in the genal comb with the genal spine only slightly shorter than the others; c) a 3-2-3-4-4-4-4 bristle arrangement along the posterior margin of the hind tibia; and d) a spermatheca that has deep penetration of the hilla into an elongate bulga. Females of *P. kasogonaga* can be distinguished by having several long bristles below the single prominent lobe on the posterior margin of tergite VIII as shown in Figure 2 and by having an anal stylet that tapers abruptly. In contrast, females of *P. lewisi* have several long bristles arising from the smaller, more ventral of the two lobes along the posterior margin of tergum VIII as shown in Figure 3 and by having an anal stylet that tapers more gradually.

*Description.* HEAD (Fig. 1). Anterior to posterior prectenidial width of helmet slightly longer than length of longest helmet spine. Helmet striations with anterior ends frequently forming groups of three or four, but without actually anastomosing. With 12 helmet spines lacking V-shaped basal notches. Anterior margin of gena blunt, convex, and aligned with 8 to 15 submarginal bristles. With 5 to 8 smaller, lateral bristles located between 2 long genal bristles. Genal comb contains 5 spines, with tapered genal spine slightly shorter than length of adjacent spine in comb, and separated from adjacent spine by a gap similar to basal width of genal spine. Genal lobe truncate, with slight distal expansion. Preoral tuber with dorsal margin strongly convex, with height roughly  $1.5 \times$  the length. Antennal bristles arising along convex distal margin of second antennal segment, with longest bristles extending beyond apex of clava. THORAX. Pronotum with 2 rows of bristles, anterior row of intermediate-length bristles, posterior row of alternating long bristles and intercalaries. Pronotal comb with 20–24 elongate spines, with small lobe below ventralmost spine that is, at most,  $\frac{1}{2}$  length of adjacent spine. Mesonotum and metanotum with 3 and 2 rows of bristles, respectively, with anterior row(s) of intermediate-length bristles, posterior row of alternating long bristles and intercalaries. Mesonotum with 6 to 10 small bristles along anterior margin, frequently overlapped by pronotal comb. With two mesonotal pseudosetae per side. LEGS. Bristles along posterior margin of hind tibia with the following arrangement: 3-2-3-4-4-4-4. Lateral surface of hind tibia with variable bristle arrangement. ABDOMEN. Tergites each with 2 rows of bristles, similar to those of pronotum. Marginal spinelets of anterior tergites as follows: I 4/3-



Figs. 1-4. 1. Head and prothorax of holotype female. 2. Posterior margin of tergum VIII of holotype female. 3. Posterior margin of tergite VIII of female *P. lewisi*. 4. Spermatheca of female paratype.

3; II 4/3-4; III 1-2/1-3; IV 0-1/0-1. Sternites II to VI each with several long bristles in a row per side. Sternite VII and tergite VIII with scattered bristles of different lengths. Two long antepygidial bristles per side arising from a slight pedestal. MODIFIED ABDOMINAL SEGMENTS OF FEMALE (Figs. 2, 4). Several long bristles arising below the single prominent lobe along the posterior margin of tergite VIII. Dorsal anal lobe with several long, well-separated bristles per side, lowest long bristle arising from blunt ventro-lateral extension. Spermatheca with deep penetration of hilla into elongate bulga. Hilla similar in length to bulga, with anterior end of hilla extremely narrowed. Anal stylet abruptly tapered, roughly  $2.5 \times$  as long as its basal width.

*Etymology.* The specific epithet is the name of a female spirit in the sky, who supposedly could create rain. She was a mythological figure of the Choca Indians, who originally occupied the Pampas region of South America.

*Holotype.* Female from Mendoza, Argentina, from *Graomys griseoflavus*, 23.VIII.1958, leg. D. F. Guménez (BM); 1 female paratype, same data, but 22.VIII.1959 (BM); 1 female paratype from Pilcañu, Rio Negro, Argentina, from *Phyllotis xanthopygus*, IV.1920, leg. H. E. Box (BM). All types returned to the British Museum (Natural History), London, England.

*Remarks.* The type material was designated initially as *P. chiris*, with the specimen from Pilcañu identified as the female paralectotype. We have not selected this specimen as the holotype of *P. kasogonaga* because its abdomen is missing as recorded in Hopkins and Rothschild (1956). Unfortunately, the character involving the arrangement of bristles along the posterior margin of tergite VIII, which separates females of *P. kasogonaga* from those of *P. lewisi*, was also omitted from the original description and illustration by Jordan (1931a). However, the specimen from Pilcañu is assigned to the new species because of the anal stylet, which is abruptly tapered in the original illustration by Jordan, rather than gradually tapered as is characteristic of females assigned to *P. lewisi*.

Of the 24 taxa currently assigned to *Plocopsylla*, five species, including *P. kasogonaga*, have been collected in Argentina. *Plocopsylla kasogonaga* is the only species taken on *Phyllotis xanthopygus*, although four other species of *Phyllotis* are known hosts for members of this genus. This new species and *P. chiris* are the only taxa collected from *Graomys griseoflavus*. This limited host list coincides with the incomplete host data for *Plocopsylla* species in general, which indicates that rodents are the true hosts in this genus, whereas insectivores and marsupials are only occasional hosts (Schramm, 1987).

Besides the type material just listed, there are two additional females listed in the literature that previously have been designated as *P. chiris*. Upon examination, the specimen listed by Mahnert (1982) is actually *P. lewisi* and thus exhibits the same dimorphism with the male lectotype of *P. chiris* as females of *P. kasogonaga*. His specimen is *P. lewisi* because of the bristle arrangement along the posterior margin of tergum VIII and the shape of the anal stylet. Mahnert noted that the anal stylet of his female was less tapered than that illustrated by Jordan (1931a), who had assigned his specimen to *P. chiris*. Here, Jordan's specimen is reassigned to *P. kasogonaga*.

Jordan and Rothschild (1914) identified one female as *Craneopsylla wolffsohni*, although it was later reassigned to *P. chiris* by Hopkins and Rothschild (1956) and

Johnson (1957). This specimen was not examined, but A. K. Thomas (Department of Entomology, British Museum (Natural History)), personal communication, noted that it probably is in the collection of the Zoology Museum in Berlin. If it is *P. chiris*, it will resemble the male lectotype in its prectenidial helmet width, its helmet spines, and in the bristle arrangement. However, there is a strong possibility that it is not this species, in as much as Hopkins and Rothschild (1956) and Johnson (1957) probably used the specimen incorrectly designated as the paralectotype of *P. chiris* for comparative purposes. If there is dimorphism, then the specimen probably is *P. kasogonaga* or *P. lewisi*, both of which have had females misidentified as *P. chiris*. This would result in *P. chiris* becoming one of four species in this genus that are represented by single specimens.

#### ACKNOWLEDGMENTS

The authors express their appreciation to Ms. Annette K. Thomas, and the Keeper of Entomology, British Museum (Natural History), London, for the loan of the male lectotype and the three females initially identified as *P. chiris*, but here listed as paratypes of *P. kasogonaga*. We also appreciate the assistance rendered by Dr. Volker Mahnert, Museum d'Histoire naturelle, Geneve, for the loan of the female mentioned in his 1982 publication. Journal Paper No. J-12772 of the Iowa Agricultural and Home Economics Experiment Station, Ames, Iowa. Project No. 2581.

#### LITERATURE CITED

- Beaucournu, J-C. and M. Gallardo. 1988. Rev. Fr. Entomol. 9 (in press).
- Hopkins, G. H. E. and M. Rothschild. 1956. An illustrated catalogue of the Rothschild Collection of fleas (Siphonaptera) in the British Museum (Natural History). Volume II. Coptosyllidae, Vermipsyllidae, Stephanocircidae, Ischnopsyllidae, Hypsophthalmidae, and Xiphopsyllidae [and Macropsyllidae]. London, 445 pp.
- Johnson, P. T. 1957. A classification of the Siphonaptera of South America, with descriptions of new species. Mem. Entomol. Soc. Wash. No. 5, 299 pp.
- Jordan, K. 1931a. Three new South American fleas. Novit. Zool. 36:311-316.
- Jordan, K. 1931b. Further records and descriptions of fleas from Ecuador. Novit. Zool. 37: 135-143.
- Jordan, K. and N. C. Rothschild. 1914. Katalog der Siphonaptera des Königlichen Museums in Berlin. I. Nachtrag. Novit. Zool. 21:255-260.
- Mahnert, V. 1982. Two new flea species in the genera *Plocopsylla* Jordan and *Hectopsylla* Frauenfeld (Insecta, Siphonaptera) from Argentina. Rev. Suisse Zool. 89:567-572.
- Schramm, B. A. 1987. A taxonomic revision of the genus *Plocopsylla* Jordan, 1931 (Siphonaptera: Stephanocircidae). Ph.D. dissertation, Iowa State University, Ames.

Received August 25, 1987; accepted December 9, 1987.